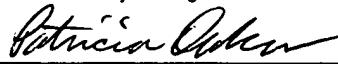


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of ) Group Art Unit 3641  
PATRICK ARACHEQUESNE ) Michelle Clement, Examiner  
Serial No.: 10/791,827 )  
Filed: March 4, 2004 )  
For: MOUNTING A )  
HOLOGRAPHIC SIGHT )  
ON A FIREARM )

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Patricia Oakes, Secretary to Edward G. Greive

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Appendix A

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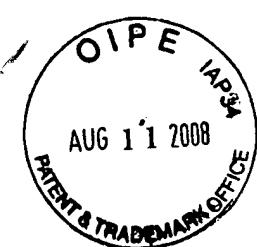
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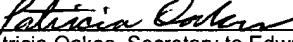
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August 8, 2008



AFIPW

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APPEAL BRIEF PURSUANT TO 37 C.F.R. 41.37

Board of Patent Appeals and Interferences  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This is an appeal to the Board of Patent Appeals from the rejections in the final Office Action mailed September 11, 2007. The Notice of Appeal was mailed on March 10, 2008. A Petition to Withdraw an erroneous holding of abandonment was granted on June 16, 2008. The present appeal is of claims 49-56 and 58-60.

**I. Real party in interest**

The real party in interest is the inventor, Patrick Arachequesne.

**II. Related appeals and interferences**

Not applicable.

**III. Status of claims**

Claims 1-48 and 57 have been cancelled. Claims 49-56 and 58-60 have been rejected under 35 U.S.C. § 103, and are all appealed.

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#### **IV. Status of amendments**

Claim 57 was cancelled after final rejection. The Advisory Action mailed 1/18/2008 acknowledged this cancellation saying, "Applicant's cancellation of Claim 52 [sic] has overcome the section 112 rejection." No other amendments were made after final rejection.

#### **V. Summary of claimed subject matter**

The sole independent claim, claim 60, claims a firearm comprising at least one barrel having a muzzle end and an opposite end. A holographic sight device is mounted on the firearm closer to the muzzle end than the opposite end. (Page 1, ¶ 0002). As shown in Figs. 1 and 2, the holographic sight device 6 is mounted near the muzzle end of the barrel of an "over and under" style shotgun. In Fig 3, the holographic sight 33 is shown as being mounted near the muzzle end of the barrel of an automatic pistol.

Mounting the holographic sight at or near the muzzle end of a firearm is a distinguishing characteristic of the claimed invention.

#### **VI. Grounds of rejection to be reviewed on appeal**

Claims 60 and 56 have been rejected<sup>1</sup> under 35 U.S.C. § 103(a) as being unpatentable over Booth ("Booth", U.S. Patent No. 6,671,990) in view of Tai et al. ("Tai '362", U.S. Patent No. 5,483,362). Non-patent literature was also cited<sup>2</sup> in the rejection of these claims.

Claims 49-55, 58, and 59 have been rejected<sup>3</sup> under 35 U.S.C. § 103(a) as being unpatentable over Booth and Tai '362 as applied to claim 60, and further in view of Sanders ("Sanders", U.S. Patent No. 5,046,277) and Tai et al. ("Tai '060", U.S. Patent No. 6,490, 060).

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<sup>1</sup> Final Office Action mailed 9/11/2007 at paragraph 4.

<sup>2</sup> *Id.* These non-patent literature references are listed on the Notice of References Cited mailed with the Final Office Action, and include: (U) <http://www.opticsplanet.net/bushnell-holosight.html> (pgs. 1-5), (V) Ultimak (<http://ultimak.com/UnderstandingE-sights.htm>) (pgs. 1-14), (W) Holographic Weapon Sight Product Introduction, NDIA/EOTech presentation, June 2004, (X) Knights Armament Company (<http://www.defensereview.com/article106.htm>) (pgs. 1-3), and (U-page 2) National Defense (<http://www.nationaldefensemagazine.org/issues/2004/Sep/Holographic.htm>) (pgs. 1-2).

<sup>3</sup> *Id.* at paragraph 5.

The rejection of all claims was confirmed in the Advisory Action mailed 1/18/2008.

## VII. Argument

### a. Rejection of claims 60 and 56 under 35 U.S.C. § 103(a)

Appellant maintains that the claimed invention is not obvious in view of the cited references. Neither Booth nor Tai '362 disclose a firearm having a holographic sight mounted on the firearm closer to the muzzle end than the opposite end. Moreover, none of the non-patent literature references discloses such an arrangement. The assertion that the claimed invention is obvious is belied by the fact that it is the singular practice in the art to mount a holographic sight near a shooter and away from the muzzle end of a firearm's barrel.

Booth does not teach a firearm having a holographic sight mounted near the muzzle end of the firearm. For that matter, one would not need to mount a holographic sight on the firearm disclosed in Booth because it already has a front sight assembly 28 that is used in conjunction with a rear sight on the receiver 11. And while Booth discloses a rail extension 70, the reference does not teach mounting a holographic sight on the rail extension, nor does the reference teach mounting a holographic sight closer to the muzzle end of the barrel than the opposite end.

Likewise, Tai '362 teaches the exact opposite of the claimed invention: It teaches a holographic sight mounted closer to the opposite end than the muzzle end of the barrel. Moreover, if one were to mount the holographic sight of Tai '362 on a firearm having the extension rail 70 of Booth, the combination of the references would not disclose the claimed invention. The holographic sight 20 of Tai '362 has a substantial base 24 and cover 26 that extend in the muzzle direction from the holographic device (which is contained within shroud 28). The rail extension 70 of Booth does not extend beyond handguard system 50', and the handguard systems 50' and 14 only extend down the barrel to tube cap 30. If one were to mount the holographic sight of Tai '362 at the farthest possible forward position on rail extension 70, the substantial base 24 and cover 26 could be placed no farther forward than before tube cap 30, and therefore the holographic device would be positioned nearer the opposite end 18 than the muzzle end 19. Thus, the combination of Booth and Tai '362 does not disclose what is claimed

because the combination does not disclose a holographic sight device mounted closer to the muzzle end of the barrel than the opposite end.

Tai '362 is typical of the gun-sight art, because the gun-sight art teaches a singular practice of mounting holographic sights away from the muzzle end of a barrel, and not closer to the muzzle end as is claimed. The non-patent literature references cited in the Final Office Action illustrate this point. In reference (U) (opticsplanet.com advertisement for Bushnell HOLOsight), there is shown a "HOLOsight on a gun" (page 1) where the holographic sight is mounted at the end of the barrel opposite the muzzle end. Also, a "HOLOsight on a rifle" (page 1) is shown where the holographic sight is mounted near the opening for ejecting spent cartridges, not closer to the muzzle end of the barrel. Moreover, at page 3, the reference offers advice in the form of a question and answer about mounting the sight on a firearm, and specific instructions are given that would lead one of ordinary skill in the art to understand that the HOLOsight is supposed to be mounted in the conventional way, i.e., not closer to the muzzle end of the barrel than the opposite end:

Q: What type of mounting system do I use?

A: The HOLOsight is designed to fit on any Weaver-style rail mount. The unit is designed to clamp onto the rail and no traditional mounting rings are needed.

Also, reference (W) (NDIA/EOTech presentation) teaches the conventional mounting arrangement where the holographic sight is mounted on the receiver of an M16 style rifle, and not closer to the muzzle end of the barrel than the opposite end. ("HWS used in Different Configurations" slide).

In sum, the prior gun-sight art (including the cited references) teaches away from the claimed invention.

In the Final Office Action, the Examiner has taken the position that the "placement of the holographic sight on the barrel and the distance of the sight from the user's eye is independent of the sight's ability to work as intended and is merely related to individual preference." Appellant disagrees that the position of the holographic sight device on a firearm is simply a matter of individual preference. Practitioners in the gun-sight arts reject this position, and this is evident from the singular practice of mounting the

holographic sight near the shooter's eye, which is away from the muzzle end of the barrel. The position of the Examiner is further undercut by the teachings of the subject application – “mounting a holographic sight at a muzzle end of a barrel of a firearm facilitates shooting.” Page 1, ¶ 0002. Appellant continues to assert that a surprising result of the claimed invention is that a shooter gains increased aiming accuracy with the claimed arrangement over prior art forms because there is a decrease in the angular field of vision between the holographic virtual reticle and the shooter. Placing the holographic sight device away from a shooter’s eyes improves alignment with a target for all individuals, and therefore it is not true that the placement of the holographic sight device is merely a matter of individual preference.

Turning again to the Final Office Action, Appellant would like to address the portion of the rejection that begins near the bottom of page 3 and continues to paragraph 5. The Examiner asserts that “The [a) statements of intended use or field of use, b) ‘adapted to’ or ‘adapted for’ clauses, c) ‘wherein’ clauses, or d) ‘whereby’] clauses are essentially method limitations or statements of intended or desired use.” However, that statement has no relevance to the rejected claims. Claim 60 explicitly recites that the “holographic sight [is] mounted closer to said muzzle end than to said opposite end”, and this is not a statement of intended or desired use. Rather, the claim recites a structural limitation – the sight is mounted on a specified portion of the firearm. Claim 56, in turn, recites where exactly the sight is mounted: “said holographic sight is mounted at said muzzle end.”

**b. Rejection of claims 49-55, 58 and 59 under 35 U.S.C. § 103(a)**

Appellant maintains that independent claim 60 is patentable over the cited references, and as a result, all claims depending from claim 60 are also patentable. However, at least some of the dependant claims 49-55, 58 and 59 are not rendered obvious in view of the cited references, and are allowable on their own merit.

For example, in rejecting claim 49, the Examiner has taken the position that Sanders teaches the specific mounting means (“removably mounting means”) by which the holographic sight is mounted on the firearm of claim 60. The subject application teaches that the firearm has a groove (element 5 in Fig. 1, or element 23 in Fig. 4), and the holographic sight device is attached to a strip (element 8 in Fig. 1, or element 29 in

Fig. 4). The holographic sight device (element 6 in Fig. 1, or element 33 in Figs. 3 and 4) is mounted on the firearm by inserting the strip into the groove, and pushing the strip in the groove toward the muzzle end of the barrel. The groove ends at an abutment that stops the movement of the strip toward the muzzle end. Fig. 4 shows the attachment strip 22 that is attached to the side of a pistol. Attachment strip 22 includes a dovetail groove 23 that ends at abutment 26. Strip 29 is attached to a holographic sight 33 through support 30. To mount the holographic sight device on the pistol, attachment strip 22 is attached to the pistol (as shown in Fig. 3), and strip 29 is guided into dovetail groove 23 and is moved toward the muzzle end of the barrel 19 until the leading edge of strip 29 reaches abutment 26. Abutment 26 prevents the strip 29 from moving any further toward the muzzle end of the barrel. The strip 29 may be held in place with respect to the attachment strip 22 by a screw 34.

Contrary to the Examiner's bare assertion, Sanders does not teach a removably mounting means comprising a groove, formed on the firearm, and a strip, fixed to a sight device and having a shape so as to be received and guided in the groove on the firearm. Instead, Sanders teaches something different: A mounting device 160 having a groove 184, and a sight ramp 162 projecting at an incline from the firearm and having a shape so as to receive and guide the mounting device. Moreover, the barrel of the firearm in Sanders does not have an abutment that is arranged and disposed such that when the strip (fixed to the sight device) is received in the groove and is submitted to a force along a longitudinal direction extending from the muzzle end to the opposite end, the strip is blocked from movement in the longitudinal direction toward the muzzle end, but is free to move in a direction toward the opposite end. The barrel of the firearm in Sanders is not an abutment.

Moreover, claim 49 recites a longitudinal direction extending from the muzzle end to the opposite end. The groove direction in Sanders is not parallel to this longitudinal direction. Rather, when the mounting device 160 is installed on the sight ramp 162, the groove direction (groove 184 being on the mounting device 160 and not the firearm) is parallel to the inclined sight ramp 162. Sight ramp 162 is at an angle with respect to a longitudinal direction extending from the muzzle end of a barrel to the opposite end.

And, contrary to the bare assertion, Sanders does not teach that the ramp is

provided near or at the muzzle end. Since Sanders was designed with conventional gun-sight applications in mind (see column 2, lines 37-49), one of ordinary skill in the art would not understand Sanders as teaching placing the groove to receive the strip (which is fixed to a sight device) at the muzzle end of the barrel.

Claim 54 recites a barrel comprising a longitudinal rib on top of the barrel. But element 162 of Sanders is not a rib. Rather, element 162 is a sight ramp projection that projects at an incline from the barrel over only a small interval. The present application teaches an over and under shotgun arrangement with a rib 3 extending along the top of the upper barrel 1, and this feature is nothing like the sight ramp 162 in Sanders.

In addition, like Sanders, Tai '060 does not teach a firearm having groove and a sight device with an attached strip that is received in the groove. Fig. 16 of Tai '060 illustrates that base 26 has a groove that slides over Weaver style dovetail rail 105 (see also column 7, lines 21-44).

#### **c. Affirmation of all rejections in Advisory Action**

Appellant maintains the patentability of the invention over the cited references, as discussed above in sections VII(a) and VII(b).

### **VIII. Claims Appendix**

An appendix containing a copy of the claims involved in the appeal is attached as Appendix A.

### **IX. Evidence Appendix**

Not applicable.

### **X. Related Proceedings Appendix**

Not applicable.

Respectfully submitted,

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August 8, 2008

## **Appendix A**

1-48. (Canceled).

49. The firearm of claim 60, wherein said holographic sight device is removably mounted on said firearm by means of removably mounting means, said removably mounting means comprising a groove, formed on said firearm, extending along a groove direction from a proximal end to a distal end and open at said proximal end, and a strip, fixed to said sight device and having a shape so as to be received and guided in said groove along said groove direction, wherein the firearm comprises an abutment that is arranged and disposed such that when said strip is received in said groove and is submitted to a force along a longitudinal direction extending from said muzzle end to the opposite end, said strip is blocked in the longitudinal direction towards said muzzle end, but is free to move in a direction toward said opposite end.
50. The firearm of claim 49, wherein said groove is a dovetail groove and said strip has a dovetail shape.
51. The firearm of claim 49, wherein said groove direction is essentially parallel to said longitudinal direction.
52. The firearm of claim 49, wherein said removable mounting means comprises an intermediary arc shaped plate extending from said strip and fixed to said sight device.
53. The firearm of claim 52, wherein said barrel has an upper side and a lower side as defined in the vertical direction when said firearm is used to shoot in a horizontal direction, and said intermediary arc shaped plate is structured so that it supports said sight device so that said sight device is on top of said barrel.

54. The firearm of claim 53, wherein said barrel comprises a longitudinal rib on top of said barrel and said mounting means are structured so that an end part of said intermediary plate comes flush with said rib and said sight device being fixated to said end part.
55. The firearm of claim 49, wherein said abutment is provided at said distal end of said groove.
56. The firearm of claim 60, wherein said holographic sight device is mounted at said muzzle end.
57. (Canceled).
58. The firearm of claim 49, wherein said firearm has an upper side, a lower side and at least one lateral side, as defined in the vertical direction when said firearm is used to shoot in a horizontal direction, and said groove is provided on said at least one lateral side of said rifle.
59. The firearm of claim 49, wherein said groove is provided near or at said muzzle end.
60. A firearm comprising at least one barrel having a muzzle end and an opposite end and a holographic sight device mounted on said firearm, said holographic sight device being mounted closer to said muzzle end than to said opposite end.